ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of Amendment of	)	
Part 15 of the Commission's Rules	)	
To Permit Operation of Biomedical	)	**ET Docket No. 95-177**
Telemetry Devices on VHF TV	)	
Channels 7-13 and on UHF TV Channels	)	

To: The Commission - **Mail Stop 1170**

REPLY COMMENTS OF THE PUBLIC BROADCASTING SERVICE AND THE ASSOCIATION OF AMERICA'S PUBLIC TELEVISION STATIONS

1. The Public Broadcasting Service ("PBS") and the Association of America's Public Television Stations ("APTS") hereby submit these Reply Comments in response to initial comments filed with respect to the Commission's *Notice of Proposed Rule Making* ("*Notice*") in the above-referenced proceeding, FCC 95-488, released January 15, 1996. PBS and APTS are nonprofit organizations whose members comprise nearly all of the nation's 179 noncommercial educational television licensees. PBS provides program distribution and other services to its members. PBS is also a leader in the development of new and improved television technologies and frequently speaks for the public television community in matters relating to the use of the television broadcast spectrum. APTS represents public television stations in legislative and policy matters before the Commission, Congress, and the Executive Branch, as well as engaging in planning and research activities on behalf of its members.

2. While PBS and APTS do not dispute the value of radio-based medical telemetry devices or the need for spectrum for such devices, they believe that use of television broadcast spectrum to meet these needs is ill-advised and would likely lead to serious problems in the

future. The showing made in initial comments by the Critical Care Telemetry Group ("CCTG") does not demonstrate that these concerns are unfounded. The potential for interference to television reception is too great, the potential for disruption of important biomedical operations could endanger lives, and the limited proposals advanced by the Commission to avoid these serious consequences would be unenforceable in practice.

3. As noted by the Consumer Electronics Manufacturers Association ("CEMA"), CCTG's showing has focused on interference to transmitted television signals, but the real issue is interference to television receivers. The general public relies on the Commission to ensure interference-free performance of their receivers, and these receivers are affected by factors other than simply co-channel unwanted signals. Television viewers are not sophisticated spectrum users and usually cannot identify the nature of interference, or even understand what is causing reception problems, let alone identify the source or location of an interfering signal. That is an important reason why the Commission has in the past prohibited any significant Part 15 operations in either the FM or TV broadcast bands.

4. The proposal in this proceeding represents a marked divergence from past practice and comes at an especially bad time, as television broadcasters are about to embark on an historic transition to digital television ("DTV"). The advent of DTV will change three important factors that are critical to harmonious spectrum sharing: (a) the number of channels in use by television broadcasters will double, thereby significantly diminishing the spectrum available for other uses; (b) the nature of broadcast emissions will change, thereby changing the potential for both causing and receiving interference; and (c) in some cases, broadcasters will begin

transmitting from new locations, when NTSC and DTV collocation is not feasible.[1/] On the other side of the coin, biomedical telemetry devices will not be used for casual purposes, and it will not be possible to shut them down on the spur of the moment if interference occurs after changes by local television broadcasters. On the contrary, these devices may be critical to sustaining lives in the medical environment. PBS and APTS believe it would be a mistake for the Commission to establish a new system in an RF environment whose future is uncertain but is known to be changing significantly.[2/] Such a step is too likely to result in clashes that will be extremely difficult, if not impossible, to resolve.[3/]

5. The steps that CCTG advocates and those that the Commission has proposed to reduce the chances of interference are too small and are likely to be unenforceable in practice, especially in light of recent Commission budget cuts, reductions in the field staff, the closing of many of the field offices of the Compliance and Information Bureau, and the inherent nature of Part 15 operations. While mandating frequency agility might help, it would increase the cost of biomedical telemetry devices, especially if the required agility were broad enough in

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1/ It should be noted that the test data submitted by CCTG address only interference to NTSC television and do not address interference to ATV. Further, even with respect to NTSC, the data do not address the possibility of adjacent-channel interference or UHF-taboo problems.

2/ Another possible future change in the TV environment is spectrum "repacking," where certain spectrum allotted to television broadcasting could be reduced because NTSC adjacent-channel and UHF taboo separations do not exist in the ATV environment. Repacking would reduce the spectrum available for bio-medical telemetry devices, if not eliminate it altogether.

3/ As members of the non-profit community concerned with public education and welfare, public television stations would never want to be put in the position of having to shut down or disrupt facilities at local hospitals and health care facilities. A public broadcaster would not like to be responsible for imposing costs on these institutions, which often have limited financial resources, when the TV station improved or modified its NTSC facilities or when it commenced ATV operation.

bandwidth to provide significant flexibility to respond to cases of interference.[4/] Indeed, CCTG opposes mandatory frequency selectability.[5/] Further, the proposal to require installation by a trained person is unenforceable, as there will be no license required to operate a bio-medical device, so there will be no control over its sale and no way to verify to whom it was sold or where it was installed.[6/] Also, the Commission has no program for establishing or verifying the qualifications of installation personnel. Finally, while limiting use to hospitals might be a clear standard, assuming it could be enforced,[7/] if use is permitted in the broader category of "health care" facilities, it will be very difficult, if not impossible to find a place to draw a clear line, so that use may be expected almost anywhere that an ill person's condition must be constantly monitored by a health care provider.[8/] Finally, the proposal to displace biomedical telemetry systems from TV bands when DTV operations start[9/] is an invitation to

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4/ If capability were required to operate in both the VHF and UHF bands, two RF sections would likely be required; and even within a single band, high frequency selectivity necessary for immunity to interference from high-powered operations generally dictates a relatively narrow bandwidth in the front end of a receiver.

5/ CCTG Comments at p. 6.

6/ The rule language proposed by the Commission in the *Notice* does not propose any specific qualifications requirement for installers.

7/ Under Part 74 of the Commission's Rules, Low Power Auxiliary Stations utilizing vacant TV broadcast channels may be operated only by broadcasters, cable television systems, and broadcast program and motion picture producers. However, there is no practical enforcement of that requirement either, even though a license is supposedly required. Wireless microphones operating on TV channels are widely sold by retailers and are in use in some hotels and schools here in the Washington area, with no apparent recognition by those institutions that there is anything unlawful about their use.

8/ Advocates of the proposal believe it is important not to restrict operation to hospitals. See, *e.g.*, CCTG Comments at p. 11.

9/ *Notice* at par. 7.

strong protests from health care providers who will have become dependent on the use of such systems, even if alternative spectrum can later be found and made available.[10/]

6. The questions asked by the Commission regarding what parameters should be specified for limiting the power of biomedical telemetry devices further illustrate the enforcement problem. If only transmitter power output is regulated, there will be nothing to stop the use of high-gain antennas other than physical constraints imposed by the requirement of mobility. Any meaningful limitations, which are necessary for the realistic minimization interference, must take the nature of the antenna into account as well as the transmitter power, as is the practice with other Part 15 devices.[11/] Strict regulations must also be imposed to prevent professional personnel from installing alternative antenna systems to improve performance.

7. PBS and APTS are also concerned about the potential impact of biomedical telemetry devices on low power auxiliary systems ("LPAS"), operated under Part 74 of the Commission's Rules. The "real-time frequency coordination" suggested by CCTG[12/] will be particularly difficult in light of the fact that there will be no database of bio-medical telemetry devices that LPAS operators may consult when they arrive at a particular location to produce a television program or motion picture.

10/ Frequency-agile biomedical telemetry devices may or may not be usable in a future frequency band allotment. Their usefulness in the future cannot be determined now, when it is not known what band may be allotted. Frequency-agility would not be unlimited; see discussion at footnote 4, *supra*.

11/ It is the normal practice under Part 15 to require the manufacturer of an unlicensed RF device to furnish an antenna with the transmitter and to design the system with a unique antenna connector to prevent the user from substituting a higher-gain antenna.

12/ CCTG Comments at p. 9.

8. Finally, PBS and APTS note that any TV spectrum that may be feasible for bio-medical telemetry use will vary in inverse proportion to the size of the market, but the need for that spectrum will vary in direct proportion to the size of the market. As a prime example, New York City, where bio-medical telemetry devices would have the most difficulty finding spectrum,[13/] is a leading medical center where thousands of patients could benefit from improved telemetry devices. It makes little sense to allot frequencies that are the least usable where they are most needed. That is why a different band should be found if more power is needed for those devices.

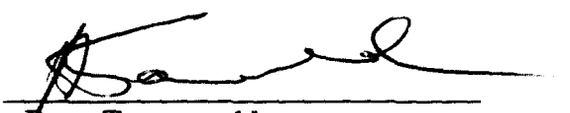
9. In sum, while PBS and APTS would like to see improvements in the use of RF technology for health care, they believe that the proposals in this proceeding should not be adopted. Even if the limited current use of TV channels by biomedical telemetry devices has been successful, the Commission should not encourage what would likely be dramatically increased use of such devices if new rules were adopted. It is known today that broadcast use of the TV spectrum is going to change soon and is going to change in a way that will be hostile to Part 15 devices of any kind. Interference that does occur will be difficult to pin down, because there will be no license database of the Part 15 devices, and there is no station identification requirement for Part 15 devices.[14/] The results could be disastrous, especially if interference is caused by broadcasters to medical devices; a person's life could be at stake.

13/ CCTG notes that it may be impossible to find a vacant TV channel in New York City after DTV operation starts.

14/ Not only will broadcasters will have difficulty locating sources of interference but operators of biomedical telemetry systems may be caught unaware when a broadcaster begins operating new or changed facilities.

Part 15 is an ill-suited environment for such critical operations. Accordingly, the proposals should not be adopted, and biomedical telemetry devices should be accommodated in other frequency bands.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I, Laura Ann Campbell, do hereby certify that I have, this 16th day of May, 1996, caused to be sent by first class United States mail, postage prepaid, copies of the foregoing "Reply Comments of the Public Broadcasting Service and the Association of America's Public Television Stations" to the following:

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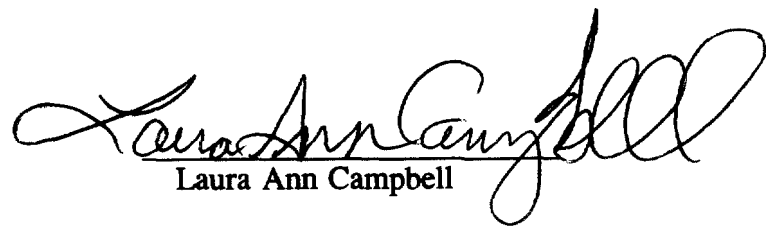

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